

⋮

Document Number: GLM-FE-8500.1-2

Revision: A

Effective Date: 4/2015

Expiration Date: 4/2020

GRC Environmental Programs Manual—Chapter 2

National Environmental Policy Act (NEPA)

Approved by Energy and Environmental Management Office Chief

Distribution: BMS Library

**NASA - Glenn Research Center
Cleveland, OH 44135**

Printed copies are uncontrolled and are not to be used for operational purposes.

GLM-FE-8500.1-2

Verify current version before use at
<https://knowledge.share.grc.nasa.gov/bmslibrary>

Page 1 of 12

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

Change Record

Revision	Effective Date	Expiration Date	C-25, Change Request #	Description
A	4/2015	4/2020	14-003	Updated all hyperlinks. Updated form names and relink to new form website

***Include all information for each revision. Do not remove old revision data. Add new rows to table when space runs out by pressing the tab key in the last row, far right column.*

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

Table of Contents

1.0	PURPOSE.....	4
2.0	APPLICABILITY	4
3.0	BACKGROUND	4
4.0	POLICY.....	4
5.0	RESPONSIBILITIES	4
5.1	Center Director	4
5.2	Public Affairs Specialist in the Community and Media Relations Office	5
5.3	NEPA Program Lead	5
5.4	Facilities Division Project Managers	5
5.5	All Directorates	5
5.6	Office of the Chief Counsel (Designated Representative)	5
6.0	REQUIREMENTS	6
6.1	Federal Agency Requirement to Comply with NEPA (<i>42 U.S.C. 4321–4345</i>)	6
6.2	Facilities Division’s Procedural Requirements (<i>GLP–FD0–1000.6</i>)	6
6.3	NEPA Process Flowchart	6
7.0	RECORDS.....	6
8.0	REFERENCES	6
	APPENDIX A.—DEFINITIONS AND ACRONYMS	8
	APPENDIX B.—NEPA PROCESS FLOWCHART	12

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

Chapter 2.—National Environmental Policy Act (NEPA) Program

NOTE: This chapter is maintained and approved by the Energy and Environmental Management Office (EEMO). The last revision date of this chapter was March 2015. The current version is maintained on the Glenn Research Center internet at <http://www.grc.nasa.gov/WWW/FTD/EEMO/index.html>. Approved by: Chief of Energy and Environmental Management Office.

1.0 PURPOSE

This chapter establishes procedures and practices for the National Environmental Policy Act (NEPA) Program at the NASA Glenn Research Center (GRC) Lewis Field and Plum Brook Station. Adherence to the procedures and practices established in this chapter will

- Ensure the minimum requirements of GRC's NEPA review of proposed programs, projects, actions, and activities are met and comply with applicable Federal, state, and local regulations, Presidential Executive Orders, and NASA and GRC NEPA and environmental policies and requirements
- Assist in new project, program, actions, and activities planning to determine NEPA documentation requirements, environmental impacts, and alternatives of proposed projects, programs, actions, and activities

2.0 APPLICABILITY

This chapter is applicable to all proposed programs, projects, actions, or activities at GRC sites and to any NASA-controlled, Government-owned facilities associated with GRC. It is applicable to GRC employees, contractors, and guest personnel at all levels who in any way participate in the initiation, development, and implementation of GRC programs, projects, actions, or activities.

3.0 BACKGROUND

NEPA is a Federal legislation that establishes the national policy for protecting the human environment. The act requires Federal agencies to consider the environmental effects of their actions before beginning a project and to examine alternative actions that would reduce any threat or harm posed to the environment. Environmental, technical, and socioeconomic factors are to be considered. NEPA is also an environmental disclosure statute and provides procedural requirements to ensure available information be adequately addressed and made available to NASA decision makers in a timely manner so they can consider the environmental consequences of the proposed action or activity. Through NEPA, environmental information shall also be made available to the public as well as other Federal, state, and local agencies. It is important to note that NEPA does not require that the proposed action or activity be free of environmental impacts, but requires the decision maker to consider environmental impacts as one factor in the decision to implement a program, project, action, or activity.

4.0 POLICY

It is GRC policy to follow the requirements and recommendations of NASA Procedural Requirement (NPR) [8580.1](#), Implementing the National Environmental Policy Act (42 United States Code (U.S.C.) 4321–4345), and Executive Order 12114, which describes how NASA implements NEPA. Additionally, GRC follows the requirements and recommendations of the Council on Environmental Quality Regulations (40 Code of Federal Regulations (CFR) Part 1500) and NASA NEPA Regulations (14 CFR Part 1216).

5.0 RESPONSIBILITIES

5.1 Center Director

The Center Director approves and signs all Finding of No Significant Impact (FONSI) documents, environmental assessments (EAs), records of decisions (RODs), environmental impact statements (EISs), and letters to elected officials.

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

5.2 Public Affairs Specialist in the Community and Media Relations Office

The public affairs specialist serves as the liaison between the NEPA Program Lead and media outlets to ensure that environmentally significant activities are disclosed to the public and that public opinion is taken into consideration during the NEPA process.

5.3 NEPA Program Lead

The NEPA Program Lead has the responsibility to implement NEPA at GRC and maintains the records that serve as evidence of the Center's compliance with NEPA. The NEPA Program Manager shall

- Reviews all safety permit requests to determine NEPA compliance.
- Reviews all [GRC150s](#) and prepares a Record of Environmental Consideration (REC), if required.
- Reviews all [GRC8095s](#) and the accompanying Statements of Work to determine NEPA compliance.
- Coordinates the preparation, review and approval of all Environmental Assessments, Findings of No Significant Impacts, Environmental Impact Statements and Records of Decision.
- Serves as the liaison between the Center, NASA Headquarters, other NASA Centers, and external agencies in all matters related to NEPA.
- Enter NEPA actions as required into the [NASA Electronic Tracking System](#) (NETS).

5.4 Facilities Division Project Managers

Facilities Division (FD) Project Managers shall

- Have the responsibility to implement NEPA within the FD
- Submit NEPA documents through the Facilities Preservation Officer to the NEPA Program Lead within EEMO
- Coordinate with the EMMO NEPA program manager on current and future projects, programs, actions, or activity schedules
- Prepare the NEPA Checklist, [GRC150](#), for all projects, programs, actions, or activities regardless of anticipated environmental impacts and submit it to the FD coordinator (see Appendix [B](#) for NEPA process flowchart)

5.5 All Directorates

All Directorates shall

- Prepare the Statement of Work (SOW) to accompany the [GRC8095](#), SOW Concurrence form, for all projects, programs, actions, or activities regardless of anticipated environmental impacts. Completion of additional NEPA documentation and associated technical studies may be required.
 - The SOW shall follow the guidelines of the Business Management System (BMS) Work Instruction, [GLWI-Q-5600.1](#), found in the BMS library.
- Provide funding for additional NEPA documentation as required.
- Coordinate with NEPA Program Lead in the earliest stages of program or project development.
- Notify the NEPA Program Lead if equipment associated with programs, projects, actions, or activities will be used offsite in the natural environmental or unusual impacts are anticipated.
- Review the record of environmental consideration (REC) for the project and/or program after the REC has been completed by NEPA Program Lead and submitted back to the initiating office.

5.6 Office of the Chief Counsel (Designated Representative)

A designated representative from the Office of the Chief Council reviews EAs, FONSI, EISs, and RODs prior to submittal to NASA Headquarters Code OJE for review and approval.

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

6.0 REQUIREMENTS

6.1 Federal Agency Requirement to Comply with NEPA (42 U.S.C. 4321–4345)

The National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321), establishes the general policies and procedures for Federal agencies to follow to comply with NEPA. Each agency of the Federal government is required to comply with the Council on Environmental Quality (CEQ) Regulations (40 CFR Part 1500) for implementing the procedural provisions of the act, and in consultation with CEQ, to develop their agency-specific procedures to ensure that environmental information is available to the public and the agency decision makers before decisions are made and actions taken.

NASA NEPA Regulations (14 CFR Part 1216) establish NASA policy on environmental quality and control and the responsibilities of NASA officials in carrying out these policies. This policy is further expanded upon in NASA's NEPA Procedures (NPR 8580.1), which provide guidance and step-by-step procedures for successfully implementing NEPA at NASA facilities.

6.2 Facilities Division's Procedural Requirements (GLP-FD0-1000.6)

The FD's organizational procedure, [GLP-FD0-1000.6](#), Project Management Process, outlines NEPA procedures applicable to the FD.

6.3 NEPA Process Flowchart

A generalized process flowchart is used by the NEPA Program Lead and project initiators to determine the effort level and documentation to be required for a particular project upon submittal of an Environmental Checklist ([GRC150](#)) or scope of work. See Appendix [B](#).

7.0 RECORDS

The following records are maintained by the GRC NEPA Program Lead

- NEPA Checklist, [GRC150](#).
- SOW Requirements Review & Concurrence, [GRC8095](#).
- Safety permits reviewed for NEPA concerns.
- Congressional Notification of Grants Forms.
- Records of Environmental Consideration (RECs).
- FONSI's
- EAs.
- EISs.
- Notice of Availability.
- Notice of Intent.
- RODs.
- EA or EIS Administrative Record Packet.
- NASA NETS

8.0 REFERENCES

Document number	Document title
14 CFR Part 1216	NASA NEPA Regulations
40 CFR Part 1500	Council on Environmental Quality Regulations
42 U.S.C. 4321–4345	The National Environmental Policy Act of 1969, as amended

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

Executive Order 12114

GLWI-Q-5600.1

GLP-FD0-1000.6

NPR 8580.1

Environmental Effects Abroad of Major Federal Actions

Statement of Work Concurrence

Facilities Division's Project Management Process

Implementing the National Environmental Policy Act and Executive Order
12114

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

APPENDIX A.—DEFINITIONS AND ACRONYMS

Business Management System (BMS).—Online home to Glenn Research Center Work Instructions, the Corrective and Preventive Action Reporting and Auditing System, training contacts, and documentation storage for internal and external audits.

Categorical Exclusion (CatEx).—An exclusion that is granted for a category of actions that does not individually or cumulatively have a significant effect on the human environment, and that the given Federal agency has specifically identified in its regulations, and for which, therefore, neither an Environmental Assessment (EA) nor an Environmental Impact Statement (EIS) is required, except under extraordinary circumstances.

Specific NASA actions that normally can be covered by a CatEx include (as listed in 14 CFR 1216.305(d))

- a. Research and development activities in
 1. Space science, other than specific spacecraft development and flight projects
 2. Space and terrestrial applications, other than specific spacecraft development and flight projects
 3. Aeronautics and space technology and energy technology applications, other than experimental projects that have the potential for substantial environmental impacts
 4. Space transportation systems engineering and scientific and technical support operations, routine transportation operations, and advanced studies
- b. Enhanced space tracking and data systems
- c. Facility planning and design (funding)
- d. Minor construction of new facilities, including rehabilitation, modification, and repair
- e. Continuing operations of a NASA facility at a level of effort, or altered operations, provided the alterations induce only social and/or economic effects but no or minimal natural or physical environmental effects

Even though an action may be categorically excluded from the need for a formal EA or EIS, it is not excluded from the requirement for an environmental analysis conducted during the earliest planning phases.

Code of Federal Regulations (CFR)

Construction of Facilities (CoF).—A NASA corporate program that funds planning for future facility needs, design of facilities projects, revitalization projects (repair, rehabilitation, and modification of existing facilities), construction of new facilities, and acquisition of collateral equipment.

Cooperating agency.—A Federal agency, other than the lead agency, that has legal jurisdiction or special expertise to comment on the proposed actions of a lead agency. A state or local agency of similar qualifications or, when the effects are on a reservation, an Indian tribe, may by agreement with the lead agency, become a cooperating agency.

Council of Environmental Quality (CEQ).—Placed in the Executive Office of the President to ensure that Federal agencies meet their obligations under the National Environmental Policy Act (NEPA). CEQ oversees implementation of NEPA, principally through issuance and interpretation of NEPA regulations that implement the procedural requirements of NEPA. CEQ also reviews and approves Federal agency NEPA procedures, approves of alternative arrangements for compliance with NEPA in the case of emergencies, and helps to resolve disputes between Federal agencies and with other governmental entities and members of the public.

Cumulative effects.—Effects resulting from incremental consequences of an action, when added to other past, present, and reasonably foreseeable future actions, regardless of which agency (Federal or non-Federal), or public or private organization, or person that undertakes such actions.

Effects.—Direct effects, which are caused by the action or activity and occur at the same time and place. Indirect effects, which are caused by the action or activity and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth-inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems.

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

Effects and impacts as used in NEPA are synonymous. Effects include ecological (e.g., the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative. Effects may also include those resulting from actions which may have both beneficial and detrimental effects, even if on balance the agency believes that the effect will be beneficial.

Environmental analysis.—The analysis of the environmental effects of proposed actions. The analysis is carried out from the very earliest planning studies for the project, program, action, or activity and form, if necessary, the basis from which the more formal environmental assessments and/or environmental impact statements are developed. The analysis is recorded on a NEPA Checklist (**GRC150**) and record of environmental consideration or supporting documents, as necessary.

Environmental assessment (EA).—A concise public document, which a Federal agency is responsible for preparing or overseeing the preparation of, that

- a. Briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement (EIS) or a finding of no significant impact (FONSI)
- b. Is proof of an agency's compliance with NEPA when an EIS is not necessary
- c. Facilitates preparation of an EIS when one is necessary

The EA shall briefly describe the need for the proposed action and alternatives and the environmental impacts of the proposed action and alternatives, and it shall list the agencies and persons consulted. It forms the basis of the decision to prepare a FONSI or a notice of intent (NOI) to prepare an EIS. Specific NASA actions that normally require an EA include, but are not limited to

- a. Specific spacecraft development and flight projects in space science
- b. Specific spacecraft development and flight projects in space and terrestrial applications
- c. Specific experimental projects in aeronautics and space technology and energy technology applications, which may have a substantial effect on the human environment
- d. Development and operation of new space transportation systems and advanced development of new space transportation and spacecraft systems
- e. Reimbursable launches of non-NASA spacecraft or payloads
- f. Major Construction of Facilities (CoF) projects
- g. Actions to alter ongoing operations at NASA installations that could lead, either directly or indirectly, to natural or physical environmental consequences

Environmental impact statement (EIS).—A document that is prepared for an action that may have significant impact(s) on the quality of the human environment or that has the potential for controversy in environmental effects. It is a report that provides a full and fair discussion and informs decision makers and the public of the reasonable alternatives that would avoid or minimize adverse consequences or enhance the quality of the human environment. An EIS ensures that the policies and goals of NEPA are integrated into NASA projects, programs, actions, and activities. An EIS is filed with the Environmental Protection Agency, published, and distributed widely for public comment.

Specific NASA actions that normally require an EIS include but are not limited to

- a. Development and operation of new launch vehicles
- b. Development and operation of space vehicles likely to release substantial amounts of foreign materials into Earth's atmosphere or space
- c. Development and operation of nuclear systems, including nuclear reactors and thermal devices used for propulsion and power generation, or both

Environmental mitigation and monitoring report.—A document prepared at the end of a project by the project manager that summarizes environmental impact mitigation efforts during the project and deviations from mitigation plans.

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

Environmental resources document (ERD).—A Center-wide report that characterizes all aspects of the installation’s environment at the time of report preparation and describes the environmental consequences of the installation’s existing operations. The ERD is used to assess the significance of subsequent proposed actions on the environment and is required by NASA regulation as a reference source for the preparation of environmental assessments and environmental impact statements.

Facilities Division (FD).—Consisting of the Planning Team, Program Management Office, Engineering Management Branch, Systems Management Branch, Operations Management Branch, and Project Management Branch.

Finding of No Significant Impact (FONSI).—A public document prepared by the Safety, Health and Environmental Division that briefly reflects the Agency’s final decision and reasons an action will not have a significant effect on the human environment and for which an environmental impact statement will not be prepared. It is published in the Federal Register by NASA Headquarters.

Glenn Research Center (GRC).—Consists of Lewis Field in Cleveland, Ohio, and Plum Brook Station in Sandusky, Ohio.

Human environment.—Human environment shall be interpreted comprehensively to include the natural and physical environment and the relationship of people with that environment. This means that economic or social effects are not intended by themselves to require preparation of an environmental assessment (EA) or environmental impact statement (EIS). When an EA or EIS is prepared and economic or social and natural or physical environmental effects are interrelated, then the EA or EIS will discuss all of these effects on the human environment.

Lead agency.—The agency or agencies preparing or having taken primary responsibility for preparing the environmental analysis or environmental impact statement.

Major facility project.—Based on an October 2, 2002, memo written by NASA Headquarters Environmental Management Division, “major” construction projects as defined by NASA NEPA regulations are not necessarily equated with monetary limits but with the scope of the project and the context and intensity of environmental impacts. (Construction of Facilities defines a major project as construction in excess of \$750,000; repair, rehabilitation, and modification in excess of \$1,000,000, and land acquisition and emergency repair approved under the provisions of Section 308(b) of the National Aeronautics and Space Act of 1958 (as amended) at any cost.) Requires a detailed environmental analysis and may require further NEPA documentation.

Major Federal action.—Major Federal action includes actions with effects that may be major and which are potentially subject to Federal control and responsibility. Major reinforces but does not have a meaning independent of significant.

Minor Facility project.—Based on an October 2, 2002, memo written by NASA Headquarters Environmental Management Division, minor construction projects as defined by NASA NEPA regulations are not necessarily equated with monetary limits but with the scope of the project and the context and intensity of environmental impacts. (Construction of Facilities defines a minor project as construction in excess of \$200,000 and not exceeding \$750,000; repair and rehabilitation in excess of \$200,000 and not exceeding \$1,000,000.) Requires a detailed environmental analysis.

NASA Electronic Tracking System (NETS)

NASA Headquarters.—Based in Washington, DC, the central location for submittals of EAs, EISs, FONSI, and RODs submitted through the Office of Chief Counsel for further review and recordkeeping as required per the CEQ.

NASA Procedural Requirements (NPR).—Provide Agency requirements to implement NASA policy as delineated in an associated NASA Policy Directive.

National Environmental Policy Act (NEPA).—Requires Federal agencies to consider environmental effects that include, among others, impacts on social, cultural, and economic resources, as well as natural resources.

Notice of availability (NOA).—A draft or final environmental impact statement for public review.

Notice of intent (NOI).—A public notice that a draft or final environmental impact statement (EIS) will be prepared. It summarizes issues discussed in the Environmental Assessment, if one was done. The notice shall briefly

Printed copies are uncontrolled and are not to be used for operational purposes.

Glenn Research Center Environmental Programs Manual	Title: National Environmental Policy Act (NEPA) Program	
	Document No.: GLM-FE-8500.1-2	Rev.: A

(1) describe the proposed action and alternatives; (2) describe the Agency's proposed scoping process including whether, when, and where any scoping meeting will be held; and (3) state the name and address of a person within the lead Agency who can answer questions about the proposed action and the EIS. This notice is required by law to allow interested parties to participate in the EIS development or to review it upon completion.

Record of decision (ROD).—A public document that reflects the agency's final decision, rationale behind that decision, and commitments to monitoring and mitigation for a particular program, project, action, or activity. The ROD is signed by the GRC Center Director and Headquarters Code OJE, and kept in the GRC NEPA Document Manager's official files. It is not published in the Federal Register, but is made available upon request.

Record of environmental consideration (REC).—A document prepared by the EMMO that outlines the level of documentation a project needs to satisfy NEPA requirements.

Significant.—As used in NEPA requires considerations of both context and intensity:

- **Context.** This means that the significance of an action must be analyzed in several contexts such as society as a whole (human and national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Short- and long-term, direct, indirect, and cumulative effects are relevant.
- **Intensity.** This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action.

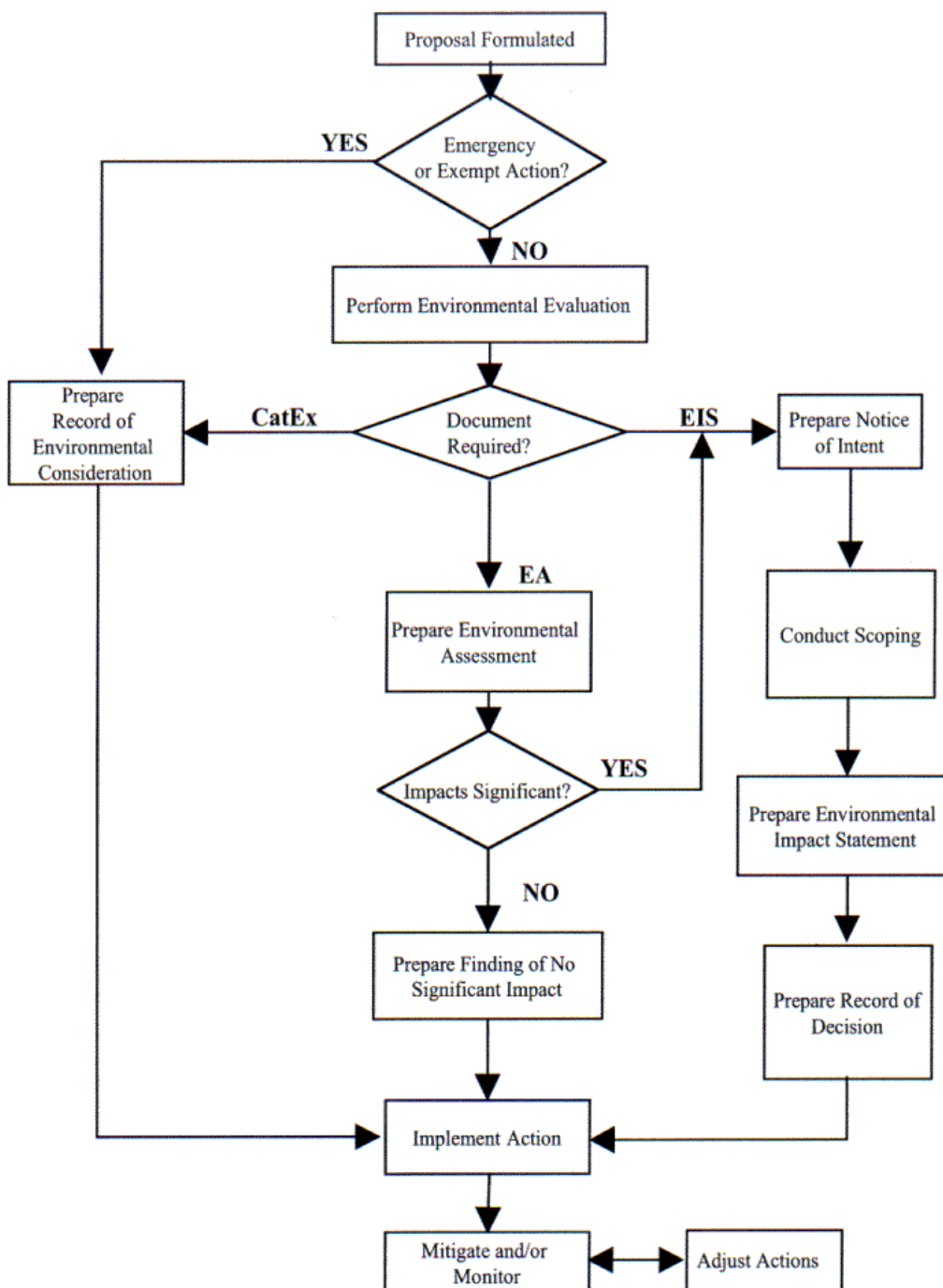
Safety and Mission Assurance Directorate (SMAD).—Ensures a safe, healthful, and protective environment for the NASA Glenn Research Center's community and enables the mission success of our programs and projects.

Statement of Work (SOW).—Fulfills the requirements of Glenn Work Instruction, [GLWI-Q-5600.1](#), for project initiators to utilize in ensuring appropriate Safety and Mission Assurance Directorate (SMAD) requirements are appropriately addressed. The SOW is submitted with the [GRC8095](#) form for routing through SMAD for review and concurrence.

United States Code (U.S.C.)

APPENDIX B.—NEPA PROCESS FLOWCHART

A generalized version of the NEPA Documentation Process at GRC is shown in the following flowchart:



Printed copies are uncontrolled and are not to be used for operational purposes.